

Robson Classification Analysis of C-section Rates In A Tertiary Hospital In India

Priyanka N - Senior Registrar, Department Of Obstetrics And Gynaecology, Apollo Speciality Hospital, Chennai, India

INTRODUCTION:

- The Caesarean section (CS) rate has seen a steady rise worldwide, with significant variation between public and private healthcare settings.
- The World Health Organization (WHO) recommends an optimal CS rate of 10–15%, beyond which there is no additional improvement in maternal or neonatal outcomes.⁽¹⁾

OBJECTIVES:

- To analyse Caesarean section trends in a private tertiary care hospital in Chennai.
- To evaluate the contribution of different Robson groups to the overall CS rate.
- To standardize CS indications and propose evidence-based recommendations for reducing unnecessary CS procedures.

METHODOLOGY:

- Retrospective observational study done in a tertiary care hospital in South India for a period of 2 years.

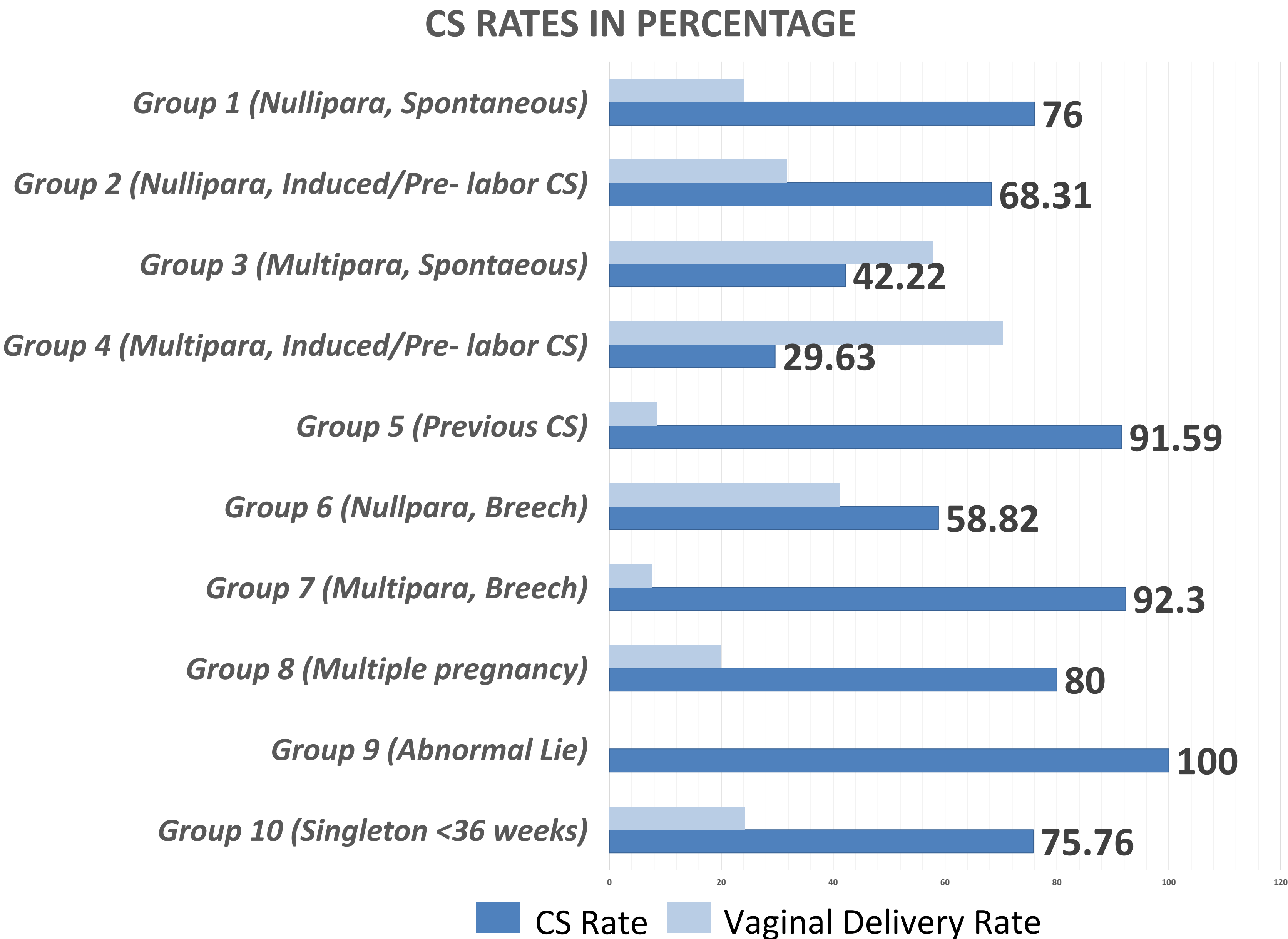
RESULTS:

- The overall Caesarean section (CS) rate at our hospital (**70.2%**) exceeds the national average and WHO recommendations. The NFHS-5 (2023) reported private hospitals in India having CS rates above 50%, particularly in urban settings.⁽²⁾
- Multiparous women (Groups 3 & 4) had relatively lower CS rates, indicating that prior vaginal deliveries increase the likelihood of successful future vaginal births.
- Previous CS (Group 5) was the leading contributor in this study. A 2022 study on Robson Classification (Rao et al, 2022) also reported Group 5 as the largest contributor, emphasizing the

need for VBAC promotion to reduce repeat C-sections.⁽³⁾

- High CS rates in nulliparous women (Groups 1& 2) suggest a need for better labour management strategies, including reducing unnecessary inductions and supporting vaginal deliveries. A 2024 IIT Madras study found that C-section rates among first-time mothers in private hospitals exceeded 60%, consistent with our findings. ⁽⁴⁾
- Our study found all cases in Group 9 (abnormal lie) resulted in CS, which is expected due to the medical necessity of surgical delivery in these cases.

The Betr n et al. (2016) study on global CS trends also reported that Group 9 consistently shows near-100% CS rates worldwide, confirming the predictability of this category. ⁽⁵⁾



CONCLUSION:

- Given that our hospital is a tertiary care centre managing more complex and high-risk deliveries, the higher rate may, in part, reflect the complexity of the cases we typically handle.
- Factors such as maternal requests for painless deliveries, legal concerns and defensive medical practices were discounted.
- Robson classification does not consider maternal health conditions, foetal distress and does not differentiate between an elective and an emergency CS limiting its abilities to justify all CS cases.
- Nevertheless, a shift towards active birth management - focusing on supporting natural labour processes, improving continuous care, reevaluating risk factors, and enhancing provider training - could help reduce the CS rates and improve maternal and foetal outcomes.

REFERENCES:

- World Health Organization. WHO statement on caesarean section rates. WHO Report. 2015.
- International Institute for Population Sciences (IIPS) and ICF. National Family Health Survey (NFHS-5), 2019-21: India. Mumbai: IIPS; 2023
- Rao J, Patel P, Sharma K. Caesarean audit using Robson classification at a tertiary care centre: A retrospective study. Int J Reprod Contracept Obstet Gynecol. 2022;11(3):765-771
- Indian Institute of Technology Madras (IIT Madras). Study finds an increase in number of C-section deliveries in India. Press Information Bureau, Government of India. 2024.
- Betr n AP, Ye J, Moller A-B, Zhang J, Gulmezoglu AM, Torloni MR. The increasing trend in cesarean section rates: Global, regional, and national estimates. PLoS One. 2016;11(2):e0148343.